

POLICY RESEARCH REPORT

Biotechnology

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I. Overview

Biotechnology is what information technologies were twenty years ago, and all states want a piece of this high growth, high wage industry. States are aggressive and creative in devising economic incentives to draw biotechnology companies to them, offering massive tax credits, low interest loans, and research grants. Missouri has identified biotechnology as a target industry, and in order for the state to become a leader in biotechnology, it must be even more aggressive and creative in its effort to lure biotechnology companies here. This report looks at what biotechnology companies consider when choosing a location and the different incentives and offers the top biotechnology states have made to attract companies.

II. What Biotechnology Companies Want

Biotechnology companies have their own lists of requirements and demands from states and communities before locating there. Incentives alone are not enough to lure new and maintain existing companies.

The most important location criteria for biotechnology companies are access to research institutes with good technology transfer policies. Many biotechnology companies and incubators are located close to universities. The proximity of an academic institution provides avenues for communication and corroboration between academicians and those in private enterprise. In addition, it is important for universities to provide access to their equipment and databases to the fledgling companies.

Universities are not the only place that biotechnology firms are usually located near. Large public or private research institutions and pharmaceutical firms are also an attraction. For instance, Maryland is a leader in the biotechnology industry because of the National Institute of Health and New Jersey benefits because of its large concentration of pharmaceutical companies located there.

Other factors important to biotechnology companies include reasonable state environmental regulations, an extremely pure and reliable water source, good sewage facilities and reliable power. Biotechnology companies cannot risk power outages since living organisms are instrumental to their research. A change in environment due to a power outage, even a short one, could be disastrous.

The workforce for biotechnology includes highly educated, younger workers with young families and many women. Therefore, areas that have a good quality of life will attract biotechnology companies and employees (Business Facilities Oct. 1999).

III. BIO Best Practices

The Biotechnology Industry Organization (BIO) compiled a list of capital information that will support and encourage growth in the biotechnology industry. Below is the list from their website.

Capital Access Funds - Numerous states have either enacted or have pending legislation to encourage states to invest in or support the creation of venture funds that invest in biotechnology. BIO wants more states to participate. Investment funds can be created through a variety of different mechanisms that will allow a state to support the industry with little or no expense to the state taxpayer.

Pension Fund Investment - Targeted investment of a very small portion of state pension funds in the biotechnology industry can provide a pool of much needed capital, yet only a handful of state pension funds actively seek biotech investments. BIO urges all states to remove barriers or restrictions to state pension fund investment in biotechnology. States should encourage pension fund managers to make investments in high-tech industries located in their own state and perhaps beyond.

Capital Gains Tax Cut - BIO is urging state governments to enact a targeted capital gains tax cut for corporations, institutions and individuals who make venture capital investments. Cutting the state tax rate for individual investors would provide a powerful incentive for investors to support biotechnology companies. BIO recommends that 75 percent of the gain be excluded from taxable income for investors who hold the stock for at least five years. A roll over provision would allow the

investor to defer tax if he or she sells the stock and invests in another qualifying company for at least one year.

Net Operating Loss (NOL) -- BIO is urging all states to adopt a 15-year carryforward provision for NOLs. [BIO is] educating lawmakers about the high cost and length of time involved in developing a biotech product from research and development through the product regulatory approval process. [BIO is] urging all states to allow heavily regulated R & D intensive industries like biotechnology to carryforward 100% of their net operating losses for 15 years as an offset against future taxable income.

Tax Loss Transferability - BIO is urging all states to look at a proposal now before the New Jersey Legislature that will allow biotechnology firms to transfer unused tax credits to other state taxpayers in exchange for funds to be used to expand in-state research or manufacturing facilities or to fund R & D activities. Biotechnology firms need a steady source of capital until they complete the lengthy product approval process and can generate revenue from product sales. Tax loss transferability could generate considerable capital and assist technology investment in the state.

Biotech Sales and Use Tax Exemption and/or Deferral - BIO supports state programs to provide additional sources of R & D capital by exempting or limiting the applicable sales and use taxes paid on purchases of R & D and manufacturing materials. As an alternative, the exemption could be restricted to purchases made from in-state vendors, and/or defer sales taxes only until the company's biotechnology product has been approved by the FDA and is marketable.

Research and Development (R & D) Tax Credit - States should encourage R & D expenditures by allowing firms R & D tax credits. BIO is urging states to enact an R & D tax credit modeled on the Federal credit with a rate of 50% of the incremental increase in expenditures as compared to the firm's gross receipts. R & D tax credits should have a fourteen or fifteen year carryforward provision.

Investment Tax Credit - BIO is urging all states to provide an investment tax credit (ITC) for the purchase of equipment for research as well as manufacturing. ITC's are more helpful than depreciation deductions or the ability to expense the cost of the equipment. BIO wants to make sure that existing and new state ITC's are defined to cover biotechnology and other R & D industries needs.

Incubators/Shared Research Manufacturing Facilities -

Emerging biotechnology companies need access to ready-made, early stage manufacturing facilities. As facility costs are among the most significant expenses a young biotechnology company encounters, state-initiated or state or local supported incubators have been successful in helping biotech companies through the difficult early phases of product development. BIO encourages all states to assist biotechnology firms access incubators and/or shared manufactured facilities.

Clinical Trial Loan Program - Biotechnology companies invest an enormous amount of time and expense in taking products through product clinical trials. BIO supports state programs that assist these "mid-stage" companies during their FDA approval process. Providing a low-interest loan program to help fund "in state" trials in hospitals and other third party organizations would provide welcome support to a state's emerging biotechnology industry as well as provide support and high-paying jobs in state medical institutions.

IV. Missouri's Incentives

Missouri possesses a number of incentives and other positive traits that help make it a leader in the biotechnology industry. Missouri offers various tax credits, and it also has research universities and pharmaceutical firms within the state. In addition, Missouri has a low cost of living, and a good quality of life rating. Below are the incentives DED offers to biotechnology companies.

- ◆ Research tax credit offered to qualified corporations or individuals. Credits can be carryforward 5 years.
- ◆ Tax credits for R & D equipment.
- ◆ Exemption of state or local sales or use tax exemption for life science companies.
- ◆ MO DED provides funding for the *Center for Emerging Technologies* incubator. A second incubator is in planning stages. There are a total of 5 incubators in the state.
- ◆ Tax credits are available for investors in start-up companies
- ◆ Missouri DED provides tax credits for companies that locate in enterprise zones.
- ◆ CAPCO's provide venture capital funding for biotechnology companies.

- ◆ The *New Enterprise Creation Act* will allocate \$20 million in tax credits over the next four year to contributors to seed capital and start up capital funds. Contributors will be awarded a tax credit equal to 100% of their contribution.

V. Top 10 Biotechnology States' Incentives

Business Facilities Magazine (Oct. 1999) ranked states with thriving biotechnology industries. Missouri ranked No. 11. The rankings were based on the following factors:

1. The total biotechnology employment in 1999.
2. The numeric change in the number of jobs added between 1990-1997.
3. The total biotechnology establishments in 1997.
4. The numeric change in the number of biotechnology establishments from 1990-1997.

Listed below are Business Facilities top 10 biotechnology states, along with their incentives and programs offered to biotechnology companies.

1. California

- ◆ *Governor's Council on Biotechnology*: Created by Governor Pete Wilson, it advises him on the factors necessary to promote the biotechnology industry in California. It consists of 16 members that are CEO's of California biotechnology companies and it meets quarterly.
- ◆ *Team California*: A group within the California Trade and Commerce Agency that works to keep businesses in the state.
- ◆ *State Interagency Task Force on Biotechnology*: A committee chaired by the Secretary of Trade and Commerce designed to coordinate activities and streamline the regulatory process for biotechnology development.
- ◆ "Special buildings," such as clean rooms, are eligible for a 6% credit against the franchise or income tax. Unused credits can be carried forward for 8 years.
- ◆ New standards set for valuing biotechnology equipment that allows more rapid depreciation.
- ◆ 6% franchise or income tax credit for purchase or lease of depreciable equipment.
- ◆ During first 3 years of operation, the company had the option of claiming (a) a 5% sales tax exemption on purchased or leased manufacturing property, or (b) a sales tax refund equal to the MIC the company could have claimed for the year.

- ◆ The highest R & D tax credit of 11% for in-house research, and 24% for research payments to outside organizations like universities.
- ◆ For new businesses, net operating loss carryforwards for up to 8 years during their first 3 years of business.
- ◆ An equity investment pool created with state teachers' and public employees' retirement systems.
- ◆ Reimbursement or financial assistance for technical job training.
- ◆ 8 centers of excellence/incubators for biotechnology that facilitate R & D, instrumentation resources, faculty development, technology transfer, public policy, and communications.
- ◆ Provides infrastructure assistance, including roads and other improvements for biotechnology buildings.
- ◆ Pacific Gas and Electric offers biotechnology companies in targeted industries reduced rates. Biotechnology currently has the lowest rate in the state.
- ◆ Financial assistance offered to companies located within the state's 36 enterprise zones.

Local Programs

- ◆ *San Diego: Team San Diego* works to keep biotechnology industries within the city and assists companies with permits. In addition, there is a biotech ombudsman in the city's department of economic development.
- ◆ *Vacaville and Solano County:* Offers an abatement of property taxes for new biotechnology construction. Also, provides construction fee waivers and subsidies on land use tax until facilities are operational.
- ◆ *Los Angeles:* Offers special incentives to companies who locate within part of the city's revitalization zone.

2. Texas

- ◆ Tax credit for R & D for businesses in enterprise zones.
- ◆ 4 Centers of Excellence (incubators) assigned to assist biotechnology industries.
- ◆ *Texas Science and Technology Council* created to investigate technology issues and to make Texas the leader in biotechnology. Topics examined include technology transfer, commercial lending, and venture capital.

- ◆ 3 programs created to allocate more than \$5 million in venture capital funding to biotechnology industry. Funding is provided through the Texas Higher Education Coordination Board.

Local

Austin: In an attempt to lure Sulzer from Colorado, Austin offered the following (source Austin Business Journal 5/21/99):

- ◆ \$1 million addition of 3rd electrical transformer to the substation serving Sulzer's existing site in Austin.
- ◆ Capital recovery fee waivers worth \$150,000.
- ◆ Installation of traffic light for the company (\$50,000).
- ◆ 13.51% electrical rate reduction (value \$50,000).
- ◆ Development fee waivers (valued at \$31,054).
- ◆ Expedited permit process.
- ◆ Encouraged local banks and moving companies to work with Sulzer and offer low interest home loans and reduced moving costs for its Denver employees.

3. Pennsylvania

- ◆ Sales tax exemption for items used in research and manufacturing.
- ◆ R & D tax credits.
- ◆ 3-year net operating loss carryforward limited to \$500,000 per year.
- ◆ *Technology 21*, a program led by Pennsylvania's biotechnology industry to create a new strategy for the state's biotechnology industry and identify strategic investments.
- ◆ *Governor's Response Team*: An economic development team that assists biotechnology companies with site selection, financing incentives, regulatory streamlining, job transfer, and technology transfer.
- ◆ Technology centers and business incubators located on the Penn State campus.
- ◆ *Ben Franklin Partnership*: provides grants and seed funding for early-stage technology companies.
- ◆ 3-6% loans for R & D and manufacturing. Money can be used for land and/or building acquisition, construction and/or renovation expenses.

- ◆ *The Sunny Day Fund* matches loans (up to 50%) at 3-6% for use in bricks, mortar, and equipment.
- ◆ Loans and grants for development in distressed communities, including money to purchase equipment and machinery and cover engineering and installation costs.
- ◆ *PA Capital Loan Fund* for companies with fewer than 100 employees.
- ◆ Redevelopment loans and grants, including low cost financing for upgrading equipment and machinery.
- ◆ Loans, grants, and equity financing for technology development.
- ◆ Job training grants and reimbursements.

4. New Jersey

- ◆ 10% corporate tax credit for investment in small unrelated high technology companies, up to 50% of total tax liability (an incentive for established companies to invest in new companies).
- ◆ Sales tax exemptions for items used in R & D and businesses within enterprise zones.
- ◆ *Edison Venture Fund III*: Venture capital for biotechnology industry. Partially funded by the NJ DED (\$2.5 million), there is currently \$60 million in the fund.
- ◆ Task Force/Study Commissions created by both the governor and state legislature that work to find ways to support and attract biotechnology firms. They are also active in promoting biotechnology legislation.
- ◆ 15 years carryforward on net operating losses.
- ◆ Tax credit certificate program allowing new biotechnology and other emerging technology companies to transfer unused R & D tax credits or net operating losses to profitable, unrelated companies for at least 75% of the value of the surrendered tax benefit.
- ◆ 10% credit for R & D spending above a base set by the state's tax department, up to 50% of total tax liability.
- ◆ 2% credit on qualified investments, up to \$1 million, limited to 50% of total tax liability
- ◆ *The Biotechnology Center of Excellence*, operated by Rutgers University and New Jersey College of Medicine. There are two other centers in the state with a combined budget in excess of \$30 million.

- ◆ State law limits access to biotechnology companies' trade secrets.
- ◆ *New Jersey Commission on Science and Technology* offers technical assistance and "bridge loans" to companies participating in the federal SBIR program. Also, the *New Jersey Entrepreneurs Forum* provides business-plan critiques, networking opportunities, and mentoring.
- ◆ Development of a 54 acres incubator with laboratories and office space with rents below market price.
- ◆ *New Job Investment Credit* for new and expanding businesses that create jobs.
- ◆ Utilities in the state can recover revenue forgone from discounted incentive rates negotiated with industrial users.
- ◆ A list of trust funds and pension funds which can be used for venture capital.

5. North Carolina

- ◆ Sales tax of 1% or less for R & D equipment and an exemption for manufacturing equipment.
- ◆ 5-year net operating loss carryforward for R & D tax credit.
- ◆ *North Carolina Biotechnology Center*, a technology development center that supplies grants to start-up companies and research institutions. Also arranges collaborations with universities, provides access to venture capital, and provides training for biotechnology employees.
- ◆ Development of two new incubators near universities.
- ◆ Lost cost financing for renovation and facility upgrade projects.
- ◆ 7% tax credit for qualified purchases of machinery and equipment. 5% tax credit for R & D expenditures made in North Carolina.
- ◆ \$500 to \$1000 tax credit for each employee receiving training. \$500 to \$12,500 tax credit for each new job created.

6. Georgia

- ◆ *Advanced Technology Development Center* at Georgia Tech (incubator).
- ◆ Job training assistance of \$500 to \$2,500 per new job.

- ◆ Low cost financing for land acquisition and construction costs. Industrial Revenue Bonds to help finance projects and exempts qualified property from property tax.

7. New York

- ◆ 9% R & D tax credit and exempts R & D purchases from sales tax.
- ◆ Investment tax credits.
- ◆ Job credits and enterprise zone credits.
- ◆ 3-year carryback and 15-year carryforward for net operating losses.
- ◆ 4 centers that foster collaborations between industrial and scientific investigators and help find venture capital.
- ◆ 2 biotechnology *Centers for Advanced Technology* (CATs) at Cornell and SUNY Stony Brook co-fund biotechnology projects for New York firms.
- ◆ *Empire State Development Corporation* assists companies with export and trade partnering.
- ◆ SUNY Stonybrook has the *Long Island High Technology Incubator* offering contract biomanufacturing services, along with lab space for start-up companies.
- ◆ Several incubators.
- ◆ Investment fund for high tech companies.
- ◆ Negotiation of property tax abatements with companies locating or expanding in the state.
- ◆ Incentives for locating in enterprise zones, including utility rate reductions, wage and tax credits, and investment tax credits.

Local Programs

New York City

- ◆ *NYC Biotechnology Initiative* has the Advanced Technology fund with \$60 million in venture capital for beginning and middle-stage companies. NYC also allotted \$10 million for seed capital and a \$30 million loan fund for emerging technology companies. Offers loans up to \$250,000 with interest between 3% and 5%. Also provides real estate and technical assistance.
- ◆ *Audobon Biomedical Science and Technology Park* established by NYC DED, NYS Urban Development Corporation, and Columbia University rents lab space at subsidized rates and leasers have access to Columbia's library, databases, and other scientific equipment.

Florida

- ◆ Limited use tax exemption for self-constructed assets for R & D manufacturing and exemption for new/expanding businesses.
- ◆ 15 year net operating loss carryforward.
- ◆ *Enterprise Development Corporation* works to facilitate growth and development of technology companies.
- ◆ *Sea Grant Program* provides funding for marine research, education, and extension.
- ◆ 2 incubators, one that encourages new biotechnology, pharmaceutical, biomedical device, instrumentation, and health related patient delivery service companies, and provides business and technical assistance. The other works to transfer biotechnology research from university to marketplace.

Minnesota

- ◆ R & E tax credits up to 15%.
- ◆ 15 year carryforward on net operating losses.
- ◆ Agricultural Utilization Research Institute provides technical assistance and up to \$100,000 in financial assistance to firms developing new uses for Minnesota farm products.
- ◆ *Minnesota Project Innovation* provides grant writing assistance for small businesses, along with identifying and assisting in technology transfers.
- ◆ The University of Minnesota's *Biological Process Technology Institute* is an incubator that operates lab and pilot plant facilities. Also provides access to research equipment.
- ◆ *Minnesota Technology Corridor Corporation* links emerging technology businesses with business resources, including venture capital, tax incentives, management assistance, and technology development.
- ◆ *Minnesota Project Outreach* provides business information to small companies, including access to technical experts, technical and marketing literature, vendor resources, and University of Minnesota resources.
- ◆ *Advantage Minnesota, Inc.* provides confidential information to companies thinking of locating there.

Wisconsin

- ◆ The state invests state pension funds in biotechnology companies both in and out of state.
- ◆ 5% R & D tax credit.

Local Programs

- ◆ *Madison*- the city DED has targeted biotechnology for a major business attraction effort and directs private and public funds to work with biotechnology firms.

III. Summary

In order to become a leading state in the biotechnology industry, Missouri must be able to lure and maintain companies to the state. Missouri must be aware of incentives and offers of other states and be primed to match or beat them. In addition, the state needs to provide the right environment for biotechnology companies, and meet the needs of the companies.